# UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|---|---|---|---|
| 10/036,466 | 01/04/2002 | Gururaj Nagendra | 42390P13129 | 5624 |

| | | |
|---|---|---|
| 8791    7590    12/05/2005 | EXAMINER | |
| BLAKELY SOKOLOFF TAYLOR & ZAFMAN | ZHONG, CHAD | |
| 12400 WILSHIRE BOULEVARD | | |
| SEVENTH FLOOR | ART UNIT | PAPER NUMBER |
| LOS ANGELES, CA 90025-1030 | 2152 | |

DATE MAILED: 12/05/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| | Application No. | Applicant(s) |
|---|---|---|
| **Office Action Summary** | 10/036,466 | NAGENDRA ET AL. |
| | **Examiner** | **Art Unit** | |
| | Chad Zhong | 2152 | |

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on _18 November 2002_.

2a)☐ This action is **FINAL**.     2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
   closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) _1-30_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-30_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a)☐ All   b)☐ Some *  c)☐ None of:

   1.☐ Certified copies of the priority documents have been received.

   2.☐ Certified copies of the priority documents have been received in Application No. _____.

   3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
      application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
   Paper No(s)/Mail Date _11/18/02_.

4)☐ Interview Summary (PTO-413)
   Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

## DETAILED ACTION

1.      Claims 1-30 are presented for examination.

2.      Applicant is required to update the status (pending, allowed, etc.) of all parent priority

applications in the first line of the specification. The status of all citations of US filed

applications in the specification should also be updated where appropriate.

3.      The examiner will interpret *hierarchical ring structure having at least one upper level and lower*

*level* as one or more semi-private networks.  Specifically, each network node / computer has a connection

list, listing potential neighbor nodes it can connect to, upon connection they form a semi-private network.

A particular node can belong to one or more semi-private networks, and any particular node can act as a

connection agent, forwarding requests to remote peers in other semi-private networks.  It should be noted

that multiple semi-private networks can be formed using the method described above.  As for *cache*,

examiner will interpret it as a storage medium within each of the network node / computer which stores

the connection list, additionally, storage medium plays an intricate role between peers to initiate, forward,

and respond to requests and/or queries from other member peer nodes on the semi-private peer network.

### *Claim Rejections - 35 USC § 102*

4.      The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United
States before the invention thereof by the applicant for patent, or on an international application by another who has
fulfilled the requirements of paragraphs (1), (2), and (4) of section 371 (c) of this title before the invention thereof by
the applicant for patent.

5.      Claims 1-30 are rejected under 35 U.S.C. 102(e) as being anticipated by Walker, US

2003/0009660.

6.      As per claim 1, Walker teaches an apparatus comprising:

a cache of a current peer in a current ring at a current level to store information of ring

peers within the current ring ([0016], cache within each of the network nodes contain one or more

connection lists of TCP/IP addresses and port information), the current ring being part of an hierarchical

ring structure of peer-to-peer (P2P) nodes ([0002], Walker's invention operate within a Peer-to-Peer

environment; As for ring hierarchy, referring to Fig 2, first semi-private network exist in group 205, 215,

220, and 210, and the second semi-private network exist in 220, 235, 240, and 245), the hierarchical ring

structure having at least one of a lower level and a upper level (the semi-private networks creates a

hierarchical ring structure, any semi-private peer network, whether '1' or '2' etc. can be one of an upper

or one of a lower level); and

a peer locator coupled to the cache to locate a target peer in the cache in response to a request (see for

example, [0020], peer locator is the program logic used for establishing communications between the

nodes, connection packets corresponding to the TCP/IP lists are sent as part of connection request to a

fellow semi-private network node in an attempt to establish communication session).

6.      As per claim 2, Walker teaches:

a peer interface coupled to the peer locator to interface to at least one of a first lower peer in a

first lower ring at the lower level and a first upper peer in a first upper ring at the upper level ([0029],

[0034], peer interface being the bridging agent, the bridging agent monitors the requests originated from a

peer in semi-private network 1 and associate / forward the request towards semi-private network 2 when a

corresponding match is found in a peer in semi-private network 2, it should be noted that any node in Fig.

2 can become a potential bridging unit and act as an interface between peers); the peer interface to

forward the request to search the target peer to at least one of the first lower peer and the first upper peer

when the target peer is not located in the cache ([0030], the bridging agent maybe a member peer node of

one or both semi-private peer networks. [0035], Assuming bridging agent belongs to semi-private

network 1, when query is initiated, the bridging agent will attempt to solve search query, that is, the

queried result is not within the cache of the bridging agent but in a remote peer within semi-private

network 2. Thus, the request is forwarded to the remote peer node in semi-private network 2).


7.      As per claim 3, Walker teaches:

   a lower interface to interface to at least one of the first lower peer and a second lower peer in a second

lower ring at the lower level (Fig 2, item 225 serves as a bridging unit between semi-private network 1

and semi-private network 2, it should be noted that any node in Fig. 2 can become a potential bridging

unit and act as an interface between peers), the lower interface to forward the request to at least one of the

first and second lower peers to search the target peer when the target peer is not located in the cache

([0030], the bridging agent maybe a member peer node of one or both semi-private peer networks.

[0035], Assuming bridging agent belongs to semi-private network 1, when query is initiated, the bridging

agent will attempt to solve search query, that is, the queried result is not within the cache of the bridging

agent but in a remote peer within semi-private network 2. Thus, the request is forwarded to the remote

peer node in semi-private network 2).

8.      As per claim 4, Walker teaches the lower interface to receive the request from at least one of the

first and second lower peers to search the target peer ([0030], the bridging agent maybe a member peer

node of one or both semi-private peer networks. [0035], Assuming bridging agent belongs to semi-

private network 1, when query is initiated, the bridging agent will attempt to solve search query, that is,

the queried result is not within the cache of the bridging agent but in a remote peer within semi-private

network 2. Thus, the request is forwarded to the remote peer node in semi-private network 2).

9.      As per claim 5, Walker teaches:

    an upper interface to interface to at least one of the first upper peer and a second upper peer in a

second upper ring at the upper level, the upper interface to forward the request to at least one of the first

and second upper peers to search the target peer when the target peer is not located in the cache ([0030],

the bridging agent maybe a member peer node of one or both semi-private peer networks. [0035],

Assuming bridging agent belongs to semi-private network 1, when query is initiated, the bridging agent

will attempt to solve search query, that is, the queried result is not within the cache of the bridging agent

but in a remote peer within semi-private network 2. Thus, the request is forwarded to the remote peer

node in semi-private network 2).

10.     As per claim 6, Walker teaches the upper interface to receive the request from at least one of the

first and second upper peers to search the target peer ([0030], the bridging agent maybe a member peer

node of one or both semi-private peer networks. [0035], Assuming bridging agent belongs to semi-

private network 1, when query is initiated, the bridging agent will attempt to solve search query, that is,

the queried result is not within the cache of the bridging agent but in a remote peer within semi-private

network 2. Thus, the request is forwarded to the remote peer node in semi-private network 2).

11.     As per claim 7, Walker teaches the cache stores information of at least one of the first and

second lower peers ([0016], wherein each of the peer in the network stores one or more lists of TCP/IP

addresses and ports).

12.     As per claim 8, Walker teaches:

    a registrar to process registration of at least one of the current peer to the first upper peer and the first

lower peer to the current peer ([0020], where the recipient have logic to permit and/or validate the connection packets sent by the requesting peer), the registration including the information on one of the current peer, the first upper peer, and the first lower peer ([0020], where the registration information comprises of TCP/IP addresses and port information in an attempt to establish communications between the peers).

13.     As per claim 9, Walker teaches:

an information retriever to retrieve the information of the target peer if the target peer is located in the cache ([0034], [0037], target node in semi-private network 2 has information queried by a peer in semi-private network 1, and the two nodes establishes communications and exchange information about Civil War era rifle in one example).

14.     As per claim 10, Walker teaches:

the information includes an address of the target peer ([0016], [0019], each node has a list of TCP/IP address and port information).

15.     As per claims 11-20, claims 11-20 are rejected for the same reasons as rejection to claims 1-10 above respectively.

16.     As per claim 21, Walker teaches a system comprising:

a requesting peer to generate a request to search a target peer ([0016], [0019], a particular peer attempt to establish communications with another peer in order to share files and information); and

a current peer in a current ring at a current level ([0016], cache within each of the network nodes contain one or more connection lists of TCP/IP addresses and port information), the current ring being connected to the requesting peer in an hierarchical ring structure of peer-to-peer (P2P) nodes ([0002], Walker's invention operate within a Peer-to-Peer environment; As for ring hierarchy, referring to Fig 2,

first semi-private network exist in group 205, 215, 220, and 210, and the second semi-private network

exist in 220, 235, 240, and 245), the hierarchical ring structure having at least one of a lower level and a

upper level, the current peer including a P2P subsystem (the semi-private networks creates a hierarchical

ring structure, any semi-private peer network, whether '1' or '2' etc. can be one of an upper or one of a

lower level), the P2P subsystem comprising:

a cache to store information of ring peers within the current ring (see for example, [0020], peer

locator is the program logic used for establishing communications between the nodes, connection packets

corresponding to the TCP/IP lists are sent as part of connection request to a fellow semi-private network

node), and

a peer locator coupled to the cache to locate the target peer in the cache in response to the request

(see for example, [0020], peer locator is the program logic used for establishing communications between

the nodes, connection packets corresponding to the TCP/IP lists are sent as part of connection request to a

fellow semi-private network node in an attempt to establish communication session).


17.      As per claims 22-30, claims 22-30 are rejected for the same reasons as rejection to claims 2-10

above respectively.



### *Conclusion*

18.      The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The following patents and publications are cited to further show the state of the art with respect "MULTI-

LEVEL RING PEER TO PEER NETWORK STRUCTURE FOR PEER AND OBJECT DISCOVERY".

| | | |
|---|---|---|
| i. | US 6693869 | Ballantyne |
| ii. | US 6651171 | England et al. |
| iii. | US 2002/0191250 | Graves et al. |

iv.    US 6400682          Regula.

Any inquiry concerning this communication or earlier communications from the examiner should

be directed to Chad Zhong whose telephone number is (571)272-3946. The examiner can normally be

reached on M-F 7:15 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor,

JAROENCHONWANIT, BUNJOB can be reached on (571)272-3913. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application

Information Retrieval (PAIR) system. Status information for published applications may be obtained

from either Private PAIR or Public PAIR. Status information for unpublished applications is available

through Private PAIR only. For more information about the PAIR system, see http://pair-

direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

CZ

November 28, 2005

BUNJOB JAROENCHONWANIT
PRIMARY EXAMINER